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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : Carel J.L. Van Driel
SERIAL NO. : 09/341,085 EXAMINER : Thu Ha T. Nguyen
FILED : July 2, 1999 ART UNIT : 2155
FOR : COMMUNICATION SYSTEM WITH IMPROVED ACCESS NETWORK

APPEAL BRIEF TRANSMITTAL LETTER

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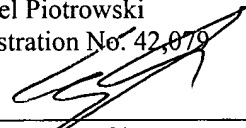
Dear Sir:

Appellants respectfully submit three copies of a Brief For Appellants that includes an Appendix with the pending claims. The Appeal Brief is now due on August 4, 2004.

Appellants enclose a check in the amount of \$330.00 covering the requisite Government Fee.

Should the Examiner deem that there are any issues which may be best resolved by telephone communication, kindly telephone Applicants undersigned representative at the number listed below.

Respectfully submitted,
Daniel Piotrowski
Registration No. 42,079

By: 
Steve Cha
Attorney for Applicant
Registration No. 44,069

Date: August 4, 2004

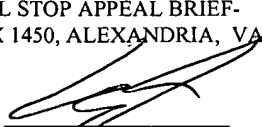
Mail all correspondence to:

Daniel Piotrowski, Registration No. 42,079
US PHILIPS CORPORATION
P.O. Box 3001
Briarcliff Manor, NY 10510-8001
Phone: (914) 333-9608
Fax: (914) 332-0615

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Steve Cha, Reg. No. 44,069
(Name of Registered Rep.)


(Signature and Date)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In re the Application

Inventor : **Carel J. L. Van Driel**
Application No. : **09/341,085**
Filed : **July 2, 1999**
For : **COMMUNICATION SYSTEM WITH IMPROVED
ACCESS NETWORK**

APPEAL BRIEF

On Appeal from Group Art Unit 2155

Date: August 4, 2004

Daniel Piotrowski
Registration No. 42,079
By: Steve Cha
Attorney for Applicant
Registration No. 44,069

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Steve S. Cha, Reg. No. 44,069
(Name of Registered Representative)

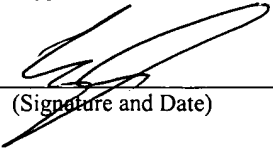

(Signature and Date)

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, U.S. Philips Corporation, and not the party named in the above caption.

II. RELATED APPEALS AND INTERFERENCES

With regard to identifying by number and filing date all other appeals or interferences known to Appellant which will directly effect or be directly affected by or have a bearing on the Board's decision in this appeal, Appellant is not aware of any such appeals or interferences.

III. STATUS OF CLAIMS

Claims 1 and 3-7 have been presented for examination. All of these claims are pending, stand finally rejected, and form the subject matter of the present appeal.

IV. STATUS OF AMENDMENTS

Although a Request for Reconsideration was filed on April 19, 2004, no Amendment after the Final Office Action has been filed.

V. SUMMARY OF THE INVENTION

The present invention pertains to a network switch 4 that connects an access network 1 to a core network 2 (FIG. 1), and is directed to relieving the switch of the burden of operating based on the specific configuration of the access network (page 1, lines 19-27). The access network 1 of the present invention provides an access node

switch 8 to interface with the network switch 4. An access node includes an access node switch 8 and a plurality of network control nodes 3, 12, 5, each of the latter residing within respective service area 21, 23, 25 (page 3, lines 26-31). Each network control node 3 has a network control switch 43 connected to the access node switch 8 (page 2, lines 18-19), and, in particular, has a network control node router that is coupled to an access node router (page 10, line 23; page 12, line 9). Network control elements include the network control switch 43 and channel cluster modules 31, 33, 35 to which it is connected. The channel cluster modules 31, 33, 35, in turn, are connected to a transmission network, and, more specifically, each module connects to a respective sub-network 7, such as a Hybrid Coax Fiber (HFC) network (page 4, lines 1-15). The HFC network 7 is connected to a network termination (NT) 11 which, in turn, is connected to a plurality of terminals 13, 15, 17 (page 4, lines 16-20).

Referring to FIG. 2, the access node switch 8 reads the VPI field of a packet routed from the network switch 4 (page 5, line 14), that field indicating the service area and modulator for that packet (page 5, lines 5-7), each modulator 16, 22, 26 pertaining to a respective channel cluster module 25, 27, 29 and to the carrier frequency assigned to that module (page 5, lines 31-32). The output of the modulators 16, 22, 26 is combined and transmitted by the HFC network 28 for forwarding to each network termination (NT) 30, 32 within the service area. The NT decodes only that part of the signal that is on the carrier frequency assigned to the NT (page 5, line 34 to page 6, line 11). Accordingly, the access node switch 8 controls all of the network specific switching without having to know a carrier frequency allocated to a terminal coupled to a sub-network.

VI. ISSUE

A. Whether claims 1 and 7 are unpatentable under 35 U.S.C. 112, second paragraph, for indefiniteness.

B. Whether claims 1, 3-7 are unpatentable under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 5,619,500 to Hiekali in view of U.S. Patent No. 5,910,954 to Bronstein et al. ("Bronstein") and U.S. Patent No. 5,740,075 to Bigham et al. ("Bigham").

VII. GROUPING OF CLAIMS

Claims 1, 3-7 stand or fall together.

VIII. ARGUMENT

CLAIM REJECTIONS UNDER 35 U.S.C. 112, SECOND PARAGRAPH

Item 8 of the final Office Action, dated March 4, 2004, rejects claim 1 for reciting "the network switch" purportedly without antecedent basis in the claim.

Item 8 is apparently referring, in claim 1, to the limitation "an access node switch coupled to the network switch."

Preceding this limitation, in claim 1, is the limitation "an access node connected to a transmission network and a non-dedicated network switch." Accordingly, the applicant believes that the term "the network switch" in claim 1 has antecedent basis in claim 1.

Item 8 likewise suggests that the term "the network switch" in claim 7 lacks antecedent basis in the claim.

Item 8 is apparently referring in claim 7 to the phrase “wherein the access node switch is connectable to the network switch.”

Preceding this limitation, in claim 7, is the recitation “An access node connectable to a transmission network, and to a non-dedicated network switch. Accordingly, the applicant believes that antecedent basis exists in claim 7 of the term “the network switch.”

Also with regard to claim 7, item 8 suggests that the term “the network control node” lacks antecedent basis in claim 7. This term appears just before the last comma in claim 7.

Preceding this term, in claim 7, is the limitation “An access node connectable to a transmission network . . . comprising . . . , in that a network control node router is coupled to an access node router.” In this context, the terms “node” and “router” are both well-known to those of ordinary skill in the art. Therefore, the recitation in claim 7 of “a network control node router” inherently implies the existence of a “network control node.” Accordingly, the applicant believes that antecedent basis exists in claim 7 for the term “the network control node.”

CLAIM REJECTIONS UNDER 35 U.S.C. 103(a)

Claims 1 and 3-7 stand rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 5,619,500 to Hiekali in view of U.S. Patent No. 5,910,954 to Bronstein et al. ("Bronstein") and U.S. Patent No. 5,740,075 to Bigham et al. ("Bigham").

Claim 1 recites, ". . . wherein the access node switch controls all of the network specific switching without having to know a carrier frequency allocated to a terminal coupled to a sub-network."

Item 12 of the final Office Action acknowledges that Hiekali and Bronstein, alone or in combination, fail to disclose the above-quoted limitation of claim 1. Item 12 of the final Office Action then suggests that Bigham discloses a frequency converter in the Bigham access sub-network 15₂. Item 12 concludes that, therefore, a control sub-network 15₃ upstream of the access sub-network need not know the carrier frequency of any particular terminal.

Firstly, however, the Bigham frequency converter is located not in the access sub-network 15₂, but at the subscriber premises (col. 29, line 20: “subscriber premises”). A set-top box or digital entertainment terminal (DET) which may also be used as a frequency converter is likewise located at the subscriber premises (col. 29, lines 20-27, 38-46).

Secondly, although the subscriber may select a channel by means of the frequency converter (col. 29, lines 40-45), the subscriber's selection of channel by means of the frequency converter has no apparent connection to the allocating of a carrier frequency to a terminal. Although, in general, frequencies might be allocated to terminals to keep the signals to one terminal from interfering with the signals to another terminal, merely allowing a subscriber to tune in his or her desired channel does not imply or suggest that “a carrier frequency” has been “allocated to a terminal.”

On the other hand, even though Bigham discloses that each subscriber may transmit a signal upstream on a respectively different channel (col. 29, lines 58-61), this implies nothing with respect to the channel for downstream reception to that subscriber and therefore fails to show that any purported Hiekali/Bronstein/Bigham access node switch “controls all of the network specific switching without having to

know a carrier frequency allocated to a terminal coupled to a sub-network” as explicitly stated in claim 1 of the present invention.

The stated conclusion that an upstream control element "controls all of the network specific switching without having to know a carrier frequency allocated to a terminal coupled to a sub-network" amounts to nothing more than pure speculation.

Bigham merely states that the network controller 323 will recognize the carrier frequency of upstream traffic, not that any upstream element "controls all of the network specific switching without having to know a carrier frequency allocated to a terminal coupled to a sub-network."

It is noted that, although item 3 of the final Office Action suggests that Hiekali discloses “channel cluster modules are arranged for transmitting downstream signals on one carrier frequency,” and apparently offers as support for this assertion “figures 3-5, 8-10, abstract, col. 2, lines 5-33, col. 3 lines 3-59, col. 14, lines 20-60, the applicant has been unable to find any support for this assertion in the cited passages and drawings.

Moreover, there is no apparent motivation for making the proposed Hiekali/Bronstein combination, let alone the Hiekali/Bronstein/Bigham combination.

While Hiekali is designed for efficiency (col. 4, line 21(22): “utilizes the unused channels”), high-speed (col. 2, line 10: “high speed”) operation, utilization of off-the-shelf (col. 8, line 8: “off the shelf”), standard components and reduction of cost through simplicity (col. 8, lines 4-5), Bronstein is designed for flexible reconfiguration of routing paths at the cost of added complexity and overhead (col. 4, line 40) “LAN

emulation header”; col. 5, line 37: “arbiter”; col. 6, line 14: “bridging and aging”; col. 8, lines 30-38).

Moreover, the Bronstein network switch 10 shares a significant amount of common functionality with Hiekali SIMs and NIMs, and therefore cannot merely be tacked on as a front-end or back-end to the Hiekali ATM gateway. Accordingly, it is unclear how the two references would be integrated to achieve a practical embodiment, and, if integrated, how the resulting combination would not change the principle of operation of the primary reference. Since the proposed modification would change the principle of operation of the primary reference, the combination is non-obvious.

For at least all of the above reasons, the proposed combination of prior art would not have been obvious, and, moreover, would not meet all of the limitations of the invention as recited in claim 1.

Claim 7 recites the same above-quoted limitation and is likewise deemed to be non-obvious over the cited references.

As to the other rejected claims, each depends from a base claim and is deemed to be patentable at least due to its dependency.


IX. CONCLUSION

In view of the above analysis, it is respectfully submitted that the referenced teachings, whether taken individually or in combination, fail to anticipate or render obvious the subject matter of any of the present claims. Therefore, reversal of all outstanding grounds of rejection is respectfully solicited.

Respectfully submitted,

Daniel Piotrowski
Registration No. 42,079

Date: August 4, 2004


By: Steve Cha
Attorney for Applicant
Registration No. 42,576

X. APPENDIX: THE CLAIMS ON APPEAL

1. Communication system comprising:

a plurality of terminals which are connected to an access network, the access network having

an access node connected to a transmission network and a non-dedicated network switch using a signaling protocol, the access node includes

an access node switch coupled to the network switch, and

a plurality of network control elements,

wherein the access node switch controls all of the network specific switching without having to know a carrier frequency allocated to a terminal coupled to a sub-network,

the network control elements include

a network control switch, and

a plurality of channel cluster modules, wherein the channel cluster modules are arranged for transmitting downstream signals on one carrier frequency and are coupled to the a sub-network corresponding to a network control node, and

wherein the transmission network comprises a plurality of sub-networks coupled to the network elements.

3. Communication system according to claim 1, wherein the channel cluster modules comprise at least one downstream channel module.

4. Communication system according to claim 3, wherein the channel cluster module comprises an upstream channel module.

5. Communication system according to claim 1, wherein the terminals comprises signaling means for exchanging network layer control information with the network switch.

6. Communication system according to claim 1, wherein the network switch comprises proxy signaling means for deriving network layer control information from session layer and/or transport layer information exchanged between a terminal and the network switch.

7. An access node connectable to a transmission network, and to a non-dedicated network switch, the access node comprising:

an access node switch coupled to a plurality of network control elements, wherein the access node switch is connectable to the network switch, and the access node switch controls all of the network specific switching without having to know a carrier frequency allocated to a terminal coupled to a sub-network, wherein the network control elements comprise a network control switch and a plurality of channel cluster modules, in that a network control node router is coupled to an access node router and to the channel cluster modules, and in that the channel cluster modules are arranged for transmitting downstream signals on one carrier frequency and are connectable to a sub-network corresponding to the network control node, and wherein the network control elements are connectable to a plurality of sub-networks.